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Backup Your Data, Then Back it up again!

Why do we make two backups of all data disks and systems disks? Because if our working copy becomes damaged we then try the first backup copy. If that becomes damaged. We stop right there. We have drive problems. And the second backup copy has not been damaged. Back up daily, and then back it up again!

EDITORIAL COMMENT

Again we have the privilege to present more new software for the TRS-80 Computers. New utilities, a new word processing program for Models I, III and 4, new download soft fonts for Laser printers and a complete update of the File Cabinet Model 4 Catalog and pricing structure that we think our TRS-80 users will find more convenient.

All this has kept us quite busy since the holiday break and seemed to eat up the extra week that comes in every quarter of the mailing cycle. Although we are running a couple of days behind with this issue, we should be back on schedule by next month.

We have in the past devoted some coverage to the Model 100 laptop computer. The number of authors who have contributed articles on the Model 100 have been few, but we hope that more Model 100 users will contribute their experiences in the future.

In the meantime we have been contacted by a user group from California that has concentrated totally on the Model 100, 102, 200 and WP-2, since 1983. (See their ad in the display section). CLUB 100, PO BOX 23438, Pleasant Hill, CA 94523. Voice phone (415) 932-8856, BBS 939-1246. They have many products to offer for the Model 100 user, and a help line, where they answer questions Monday thru Friday.

All the products presented in CN80 by their authors will have third party reviews that we will print as soon as they have become available.



TRX-280 UPDATE

by Peter Ray

I wish to express my appreciation to the many of you who have written in to voice your enthusiasm for the new TRX-280 project. (If you missed the December 1990 issue of CN80, the TRX-280 is a high-powered, Z280 based replacement mother board for the TRS-80 which will have a boat-load of built-in extras and is projected for release next year.) I wish there were space to print all the letters received, but I am able to give you some excerpts which depict the essence of the responses.

"I am excited and very much ready for the next generation TRX-280 mother board. The enhancements it can offer not only has the potential to keep my TRS-80 Model 4 active, working and useful in meeting the challenge of the next decade but a programmers delight. Something very new to work with. Although the cost may seem high compared to previous memory upgrades, this is an opportunity to have a custom made product from scratch. Individually we have not had resources for the R & D and production. However if Peter Ray is willing, lets show full support now." (Mitchell Corwin, Berkeley, CA)

"I was so pleased when I read your article on the TRX-280 plans that you are looking to build. For the past two years I have been waiting for someone to take on this project." (Edward Champion, Franklinville, NJ)

"The Z-280 microprocessor sounds extremely interesting. The ability to use IBM expansion cards is great. I would very much like to be able to add a scanner, video digitizer, CD ROM and tape cartridge drive without having to buy an MS-DOS system. It's nice to see people still thinking about the future of the TRS-80, and are in a position to do something and not just talk, because I don't see anything all that great about an IBM or IBM compatible." (Ronald Wick, Stoughton, WI)

"The new TRX-280 seems to be the answer for every TRS-80 user. I hope there will be sufficient interest to complete the project. I now have a 1 megabyte MegaMem installed in one of my TRS-80 4D's. It is truly a remarkable improvement. But as memory expands speed becomes more important. So

the increase in speed with the TRX-280 will be really welcome. I hope Peter Ray will find the interest he needs to proceed with this project. My congratulations to him for MegaMem." (Ed Fraser Cape Coral, FL)

"I look forward to seeing the response from other end users such as myself, in the pages of CN80. Mr. Ray's article and proposition is one of the most exciting I've heard in a long time! Thanks for sticking with us loyal TRS'ers." (Paul Matson, Willmar, MN)

"Yes, cast my vote for the TRX-280. I need it for my Model III. I could cope with a price in the \$500-600 range so please send me info about advanced ordering." (John DiTraglia, Portsmouth, OH)

"WOW, A TRX-280 = FANTASTIC. I'd love to have two of them right now! Especially if I could put them into my Model III's. To run at 10-15 MHz sure would be great. All the built in features would be great too, instead of all add-ons, especially the on-screen underlining, text bolding, and italics. Such a versatile floppy controller would save a lot of compatibility questions and provide flexibility. Yes I would advance order two of them now, if I could lock in a price of \$500 (+/- \$100)." (Frank Gottschalk, Fremont, CA)

"Two Hips and a Hooray! As the little blue-haired lady at Bingo says, 'It's about time.' Put my vote on the pro side and send me an order form. I have only dreamed of this ever since I was forced into 'The Other World' and away from my ol' user-friendly Model 4. Please tell me it'll be soon. Get Anitek Cookin'." (Gene Gutridge, Stockton, CA).

There were many more than this and I will print more excerpts in the next issue. But I want to use the rest of my allotted space to address as many of the questions as possible.

[Q] What about getting repair from Radio Shack? [A] That shouldn't be a problem. If the computer dies, simply put the original mother board back in the computer and take it to Radio Shack for repair. If it's the TRX-280 mother board that needs repair, send it to us.

[Q] Can I use the SIP modules from the MegaMem board to increase the memory on

the TRX-280. [A] Yes, just by unsoldering the pins. We expect to design the TRX-280 to use SIMM modules which are the same as SIPs without the pins.

[Q] Couldn't Anitek just design a Z280 add-on for the TRS-80 mother board? [A] Yes, but that would only give you about 1/10 the features of the TRX-280 at about 1/3 the cost. In other words the TRX-280 would give you 300% more value for the money.

[Q] Could Anitek put a Basic Compiler in the boot ROM? [A] Yes, it is possible. We could even put a DOS, a calculator, and a bunch of other handy programs in the boot ROM. But if we do, it would likely be an extra option that you could get later.

[Q] Will the TRX-280 allow for expansion of Basic core memory? [A] Yes if Basic were rewritten to be able to address the extra memory. This might also be an extra option that we might come out with later.

[Q] What is "bit mapped" graphics? [A] This is the same as "dot addressable" graphics, where you can turn on or off any dot of the screen, the same as the Grafyx Solution board.

[Q] Will there be an upgraded DOS to take advantage of the extra features? [A] Our plan is to design the TRX-280 in such a way that it won't need any other DOS other than the one you are currently using. Anitek and/or the DOS vendors may wish to take advantage of the extra power of the TRX-280 to add features to the DOS at a later time, but it won't be necessary.

[Q] Why should I spend around \$600 for the power and features of a TRX-280 when I can get a PC for just under \$1000? [A] There are several reasons. First, if you get a PC you still have to get the software and that could cost hundreds, maybe thousands when you add it all up. Second, the cost in your time to relearn a new computer and all that new software means hundreds more you would pay out in valuable time. And third, some of the proposed features for the TRX-280, like the display capabilities, you can't even get on a PC at any price. With the TRX-280 you get all the power of a PC and more without the hassle or the high software expense.

[Q] Would Anitek come out with a RAM drive and a new release of LeScript to take advantage of the 1 to 4 Megabytes of on-board RAM. [A] Yes, and possibly many other programs as well. We also expect many other vendors to jump on this band wagon and come out with many fantastic programs that will take advantage of the extra RAM and the other extra features of the TRX-280.

Some of the wish list items that people mentioned where: color monitor, multitasking, light pen, and mouse support. These are great ideas, but it seems like the extra cost of adding these features would add even more cost to the board which everyone would have to pay for whether you wanted those extras or not. However, the one or two IBM expansion slots plus the standard 50-pin I/O connector would make it easy for these extras to be added to your system as options.

Although most thought an advance-purchase price of around \$600 was very reasonable, others thought it a bit high. When you think of all the features of the TRX-280, this price is actually unbelievable low. However, we could bring the advance-purchase price down \$100 or so if we remove some of the planned features that you mentioned were not high-priorities to most of you. These were the hard drive host adapter, ability to boot directly from the hard drive, the ability to boot Model 3 DOS's on a Model 4P, the ability to handle high density floppy drives, and the clock/calender.

A few expressed an interest in keeping the cassette port just because many games use it to generate sound. We do plan to tie the cassette output port to the the internal speaker on the TRX-280 like it's done on the 4P. This way we can do away with the cassette interface circuitry and still keep its usefulness as a sound generator.

That's all I have room for this month. If you haven't written CN80 yet to express your enthusiasm, please do. I'll be printing more of your responses and answering more of your questions about the TRX-280 in the next issue.

-Peter Ray

(Editors Note) You may send your responses to the Z-280 article to CN-80, (we then pass

them on to Peter Ray or mail them directly to Peter Ray c/o Anitek Software, PO Box 361136, Melbourne, FL 32936.

Please understand that any advance order payment, or other financial arrangements and/or agreements that may be entered into, are between the purchaser and Peter Ray. Computer News 80 is involved only as a media for exposure of the proposed project to build the Z-280 Motherboard.

We would also like to advise you that if your letter has highly technical questions and/or price questions about this project that you send your letter directly to Peter Ray at the above address. -CN80

DESCRIPTION OF DEXFIX UTILITY

by Dave Kelton

(Dave Kelton is our Assembly Language Tutor Challenge winner - see Vol. 3 No. 12, page 12 & 13. -CN80)

This routine "truncates" a string of zero to 255 ASCII digits to the desired number of decimal places contained in the A register. The final string is padded with ASCII zeroes, if necessary; and the length of the final string is returned in B -- it may be longer or shorter than the input string. The Z flag is set if B overflows beyond 255 characters.

On entry, HL points to the input data string and is PUSHed onto the stack for retrieval upon exit. The Z flag is set or reset depending on whether the number of desired decimal places is zero or non-zero and is saved in AF' (lines 260-270). The routine puts the input string length in C and zeroes B as the character count of the "fixed" string. The C register is incremented once to compensate for the immediate decrement to follow.

The routine loops at DEXFI1 (lines 360-430) searching for the end of the input data (EOD) or a non-numeric character whichever occurs first. Note that if the input string length was zero, the Z flag will be set the first time in the loop. When the EOD is

found first, the routine branches to DEXFI4 to check the number of decimals desired (in AF'). If the Z flag in F' is not set, the routine adds the "." and trailing zeroes as described later. If the Z flag is set, the routine branches to DEXFI8 to exit.

If a non-numeric character is found, the routine checks to see if it is the decimal. If not, the routine branches to DEXFI4 as above. If it is the decimal, the routine tries to get the desired decimals digits, if any, in the loop at DEXFI3 (lines 560-670). During this process, it also checks for EOD or a non-numeric character. If the routine completes the required number of decimals before the EOD is encountered, it will branch to DEXFI8 to exit.

If it cannot get the requested number of decimals from the input data string, the routine branches to DEXFI6 to add the trailing zeroes. The first step is to check if the requested number of decimals has been effected. Because of the order of the checks in the DEXFI3 loop, a branch to the "pad" section will occur even if all the requested decimals have been obtained when the input string has exactly the requested number of decimals (e.g., if the input string contained "123.456" and three decimal places were requested).

Until now it was unnecessary to check the value in B for overflow because it could not be greater than 255. During the padding process, however, overflow will occur anytime the number of digits in front of the decimal plus the number of digits after the decimal equals 255 or more. Therefore, the routine continuously checks for overflow in B (line 820) and branches directly to DEXFI9 to exit if B overflows. This leaves the contents of B at zero and the Z flag set.

The routine exits normally by branching to DEXFI8 to check the length of the "fixed" string. This length will be zero only if the input data string was null or had no numeric characters. Under this condition, the routine increments B, inserts one ASCII zero as the "fixed" string, and returns to DEXFI8. Thus, if a null string is passed to the routine, the DEXFIX routine will return "0".

The reason for branching to DEXFI8 even

when the value of B is known to be non-zero is to ensure the Z flag is reset. When the flag is reset, the routine branches to DEXFI9 to add a carriage return character (13d, X'0D') as the terminating character for the "fixed" string and to retrieve the original value of HL from the stack before returning to the calling routine.

A word of caution is in order. The "fixed" string can be longer than the input data string. The user must ensure that trailing data or program instructions are not overwritten. For example, an input data string of "123" and three required decimals results in a "fixed" string of "123.000 <CR>" -- five bytes longer than the input!
-Dave Kelton

(Please Note: Instead of taking room out of this issue to publish the printouts with remarks added. We will send a copy to those of you who would like a copy of Dave Kelton's fully remarked DEXFIX - ASCII 2 fixed points, two full pages. Please send a self addressed, stamped business size envelope.)

A REMINDER for ARTICLE AND PROGRAM SUBMISSIONS.

When sending letters of any length for the file cabinet or articles, please send them on a disk in ASCII format. Your disk may be formatted with TRSDOS 1.3, TRS/LS 6.x or LDOS 5.3 and most other popular DOSs. If in doubt send single sided single density 35 track formatted disk. Along with a printout of your material.

Please remember to put a label on your disk that identifies your material, along with your name. Surprisingly enough with the amount of material we receive and handle, disks do have a tendency to become mixed at times or stray from the hard copies. Then we have to figure out who the disk was sent by, unless we have a disk with a label and your name attached.

As you know we are greatly dependant upon our readership for their contribution to CN80. It is through your continued support that makes CN80 what it is and we really appreciate it.

ASSEMBLY LANGUAGE TUTOR Part 25 by Chris Fara (Microdex Corp)

M u l t i p l y = D i v i d e

When we studied shifts and rotations (Z80 Tutor II:14 or CN80 9/90:6) we have observed that those instructions were convenient for quick multiplications and divisions by powers of two. With 2-byte ("word") values we shift and rotate registers in a "synchronized" manner. For example to multiply HL by 2 we'd write:

```
SLA L
RL H
```

so that any carry pushed out of bit #7 in the "low" register L gets forwarded up to bit #0 in the "high" register H. To multiply by 4 we'd repeat these two instructions twice, times 8 would take 3 repetitions, and so on. To multiply by 64 we could repeat SLA, RL six times (12 instructions). Or we could first multiply by 256: copy L to H and then stick a zero in L, because the "high" byte in a pair represents multiples of 256. Then shift right to divide by 4. This needs only 6 instructions:

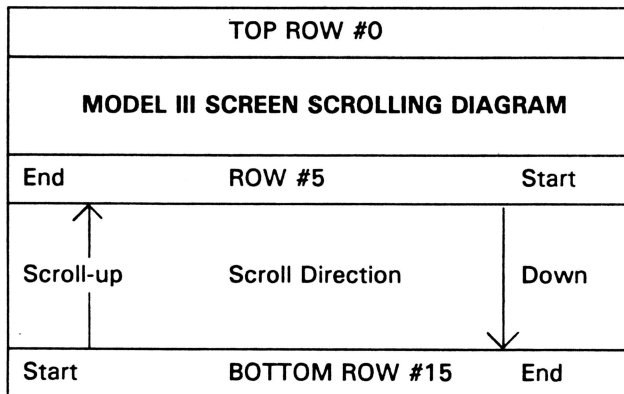
```
LD      H,L
LD      L,0      ;times 256
SRA     H
RR      L        ;times 128
SRA     H
RR      L        ;times 64
```

Such capers may seem far out, but actually they are the bread and butter of assembly programming. The general idea is always to find the shortest and fastest logic for a problem. In fact we often do that sort of thinking in everyday life. If you need to multiply, for example, 37 times 19, you could grab some paper and pencil and do the long job. But you'll probably instantly figure in your head that 37 times 20 equals 740, and minus 37 gives the correct product 703. As they say, "the problem is the solution". If we get hung up on the word "multiply" then it forces us to follow a proven, but perhaps inefficient procedure. If we redefine the problem and ask "what is the product" then we're free to approach it in a more creative way. Anyway, the scheme discussed above works for any value of 255 or less in HL (or in DE or BC). It can be further developed for larger values, but for now it's good enough to serve the following procedure.

Mod-III video scroll

Anybody can output things to the screen and let it scroll off the top when the page gets full. But an assembly programmer can control the scrolling at will: up, down, whole screen, or any section of it. Basically it's the matter of shifting the contents of video memory up or down, and that's about it in Mod-III. In Mod-4 it's a little different and we'll get to that later.

We'll design the procedure so that it can be used for scrolling up or down, depending on two values passed to it: starting and ending row numbers. In Mod-III there are 16 screen rows numbered from #0 (top) to #15 (bottom). For example if we call the routine with start=5 and end=15 (ending row number greater than the starting row) then the section between and including rows #5 (ie. the 6-th row) and #15 (bottom) will scroll down. If the numbers are reversed (start=15, end=5) then the same section of the screen will scroll up.



Let's attack the logical parts of the procedure one at a time. On ENTRY:

L = start-row number 0-15

H = end-row number 0-15

```

;-----
SCR3:  D      A,H      ;end-row
      SUB     L        ;A=count rows
      RET     Z        ;nothing
      PUSH    AF       ;stash sign
      JP      P,SCR31  ;A>0 down
      NEG     ;make A>0
SCR31:  ...
;-----

```

To begin with, subtract start-row from end-row to get the count of rows to be scrolled. If zero then return: both numbers are the same and there is nothing to scroll. Otherwise stash away the Sign flag, we'll

need it later to determine the "direction" of scroll (down if positive, up if negative). Here, if H>L (scroll down) then A>0 and we proceed. If H<L (scroll up) then A is negative, so NEG converts the count of rows to a positive value. The next segment translates the count of rows and the end-row number into values related to Mod-III video memory.

```

;-----
SCR31: LD      B,A      ;B=A=count
      LD      C,0      ;BC=B*256
      SRA     B
      RR      C        ;count*128
      SRA     B
      RR      C        ;count*64
      LD      L,0      ;HL=H*256
      SRA     H
      RR      L        ;endrow*128
      SRA     H
      RR      L        ;endrow*64
      LD      DE,15360 ;video begin
      ADD     HL,DE     ;endrow begin
      PUSH    HL       ;stash it
      LD      DE,64    ;length row
      ADD     HL,DE     ;next row begin

```

SCR33: ...

;-----

Since the count of rows is obviously less than 256, we can use the "creative" scheme outlined above to get into BC the count of bytes to scroll (count of rows times 64 bytes per row). Similarly the end-row number is multiplied by 64 to get its "distance" or "offset" from the beginning of the video memory area. As we know from previous essays, Mod-III video memory begins at the address 15360. Add this to the offset of end-row and get the absolute address of its beginning in memory. Stash it away for later. Add 64 to get the address where the next row begins (just below the end-row on the screen, but 64 bytes higher in memory). Now we're ready to set up registers for LDIR (scroll up) or LDDR (scroll down).

```

;-----
SCR33: LD      A,15    ;cursor off
      CALL    51      ;do it
      POP     DE       ;get endrow
      POP     AF       ;get sign
      JP      M,SCR37  ;scroll up
      EX      DE,HL    ;else down
      DEC     DE       ;endrow+63
      DEC     HL       ;endrow-1

```

SCR35: ...

;-----

as in a previous case (the TABS procedure, CN80 1/91) we need to turn the cursor off for the duration of scrolling to prevent its image from remaining on the screen in unwanted places. Now POP the address of the end-row into DE (destination), and recover the Sign flag. If it's Minus (scroll-up) then we're ready (jump if Minus) because HL (source) already points to the beginning of next row. Thus BC-bytes will shift up by one row. But if the flag is positive then the end-row number was greater (scroll-down). So we must do some adjustments to HL and DE. EXchange them: now HL points to the end-row, and DE to next row. DECrement DE (destination): instead of pointing to the begin of the next row, it will point to the last byte of the end-row. Similarly DECrement HL (source): instead of pointing to the begin of end-row it will point to the last byte of the previous row. Thus BC-bytes will shift down by one row. Here it goes.

```

;-----
SCR35:  LDDR                ;down
        INC      HL         ;HL=> top
        JR       SCR39
SCR37:  LDIR                ;scroll up
        EX       DE,HL      ;HL=>bottom
SCR39:  LD      (16416),HL   ;move cursor
        LD      A,30        ;erase row
        CALL    51          ;do it
        LD      A,14        ;cursor on
        CALL    51          ;do it
        RET              ;all done
;-----

```

For scroll-down (actually "up" in terms of increasing memory addresses) use LDDR, beginning from the higher memory address, so that the copy won't overwrite itself. For the same reason use LDIR for scroll-up (in terms of decreasing memory addresses it is "down"). If you don't remember when to use LDDR and when LDIR, see Z80 Tutor II:2 or CN80 2/90:4. After LDDR the register pair HL points to one byte below the address of the top row of the section we have just scrolled. So INC it to point to the begin of that row. After LDIR the pair DE points to the begin of the bottom row of the scrolled area. So EXchange it into HL. Now in either case HL points to the row which we want to make blank for output of some new text. Load HL into memory location 16416 to move cursor to that row, as discussed in CN80 1/91 (we're loading a 2-byte "word": L will go into 16416 and H into 16417). Erase this row by outputting

ASCII control byte 30 (EREOL, ERase to End Of Line), and turn the cursor on with ASCII 14. The control bytes don't move the cursor, so it sits now at the begin of a blank line, ready for some text from the calling program.

BASIC scroll

The subroutine can be easily called from Mod-III BASIC. Let's say we want to scroll the top half of the screen from row #0 down to row #7. To pass the row numbers to the register pair HL we can combine them into one 2-byte integer:

```

L% = 0 start-row
H% = 7 end-row
HL% = L% + 256*H%

```

Assuming that the address of the scroll subroutine is in the variable Z% (for example it is a "memory module", see Z80 Tutor II:25 or CN80 3/89:11), we can write:

```

DEFUSR = Z%
X% = USR (HL%)

```

And to transfer the value of HL% into register pair HL, on entry to the scroll subroutine add the usual extra line (Mod-III by Chris, Chapter 5):

```

;-----
SCR3X: CALL 2687
SCR3:  ...                ;continue
;-----

```

On return the cursor sits at the beginning of a blank line, so a simple PRINT can output something in that line.

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MODEL 4 DISK SCRIPSIT DEFAULT CHART

by Fred Oberding

I don't know how many of you still use Model 4 Disk Scripsit for your word processing chores. I find it handy for everyday notes and short informal letters, plus preparing messages off-line for upload to CompuServe or other BBS's. Although I use Scripsit Pro for the more complex jobs, it seems I gravitate back to plain vanilla Disk Scripsit for most everything else.

The following chart will allow you to permanently change Scripsit default values, in order to make your own customized version. Instead of having to specify the parameters you normally use each time you enter Scripsit, you can now patch them and forget them. For example; to change the video line width from 78 to 80, simply replace 4E, the hex value for 78, with 50, the hex value for 80. As in the following:

PATCH SCRIPSIT/CMD
(D00,BD=50:F00,BD=4E)

[Note: Patches are written on one line with a space after /CMD].

NOTE: How the Relative Address from the chart is inserted after the "D" and "F" of the patch. As with all patches, only apply them to a backup or working copy and not to your original. Also remember these patches are for Model 4 Disk Scripsit and not SuperScripsit.

Rel. Add	Parameter	Default value
00,BD	Video line width	W=78 4EH
00,C8	Paragraph indent	I=5 05H
00,F3	Cursor character	8FH
04,C1	Insert character	BFH
08,A4	Insert block character	8FH
17,3C	Tab line character	8CH
25,C5	End of line character	8CH
26,60	Left margin	LM=12 0CH
26,61	Right margin	RM=90 5AH
26,62	Paragraph format	PF=1 01H
26,63	Justify text	J=Y 59H
26,64	Center text	C=N 4EH
26,65	Text flush right	FR=N 4EH
26,68	Line spacing	LS=1 01H
26,69	Top margin	TM=6 06H
26,6A	Bottom margin	BM=60 3CH
26,6B	Vertical center text	VC=N 4EH
26,6C	Page length	PL=66 42H

After using the Model 3 LSCRIPT patches, from the old LDOS/LSI Journal, I couldn't stand the fat Tab Line (the bottom border line) in Model 4 Scripsit, so I patched it to use 5FH instead of 8CH. This gives a more pleasing thin line instead of the fat blur of the original.

Change Tab Line to thin underline.
PATCH SCRIPSIT/CMD
(D17,3C=5F:F17,3C=8C)

I also changed the Cursor character from

8FH to 85H, the Insert character from BFH to B0H, the Insert Block character from 8FH to 5FH and the End of Line Marker from 8CH to 84H.

Change cursor to smaller graphic block.
PATCH SCRIPSIT/CMD
(D00,F3=85:F00,F3=8F)

Change insert character to smaller graphic block.
PATCH SCRIPSIT/CMD
(D04,C1=B0:F04,C1=BF)

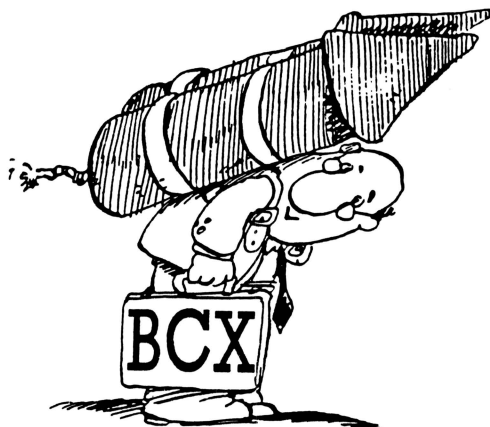
Change insert block character to underline.
PATCH SCRIPSIT/CMD
(D08,A4=5F:F08,A4=8F)

Change end of line marker to small graphic block.
PATCH SCRIPSIT/CMD
(D25,C5=84:F25,C5=8C)

Of course, instead of all these little patches, you could make one large one, by BUILDing a JCL file.

While I was at it, I made a set of patches to change the command line messages to lower case, as the all upper case format was just too obtrusive for my liking. These patches will probably be too long to print with this article, but I'm sure they will be available in the CN80 Disk Series covering this issue.
-Fred Oberding

Fred's JCL patch file will be on CN80 Disk Series Number 12, available the end of March. If you want an advance copy send \$2 as usual to cover the disk and mailing. CN80



VISIT WITH DAVID GOBEN

by David Goben

RESETTING MODEL I/III DATA POINTER, NEW I/III/4 WORD PROCESSOR, NEW SPELL CHECKER, NEW MODEL 4 BACKUP UTILITY, MORE BCX NOTES, HYPERBNK UPDATE

New. Gee, that's a nice word when it comes to the TRS-80 computers. New software, in this case. So that will be what I will be discussing here, plus a special feature for the BASIC programmer on the Model III and Model I.

HYPERBNK UPDATE

Not long ago I released a program called HYPERBNK/CMD onto the public domain, which allowed the TRSDOS/LS-DOS 6 @BANK function support up to 32 banks with the HyperMEM and SuperMEM boards (that's up to 1 megabyte), and had asked users to test it. Well, they have, and now we have it running. To get the original version 1.0 up and going, you will need to apply a patch. Use BUILD and create a file called HYPER1/FIX, and enter into it the following lines:

```
. HYPER1/FIX
. Fix Hyperbnk/cmd 1.0 to 1.1
D00,76=3E
F00,76=20
D01,0A=AF 3C
F01,0A=3E 01
D02,4A=31
F02,4A=30
.EOP-----
```

Press the BREAK key to exit build and apply the patch using the command PATCH HYPERBNK HYPER1.

BCX UPDATE

The latest version of BCX is 1.2. Just before "going to press" with actual publication of the manual and disk by CN80, I changed a couple of things in BCX, creating version 1.1. As stated previously in my column, I said that BCX used the crosshatch key "#" to allow the user to point to coordinates when typing in a formula. I eliminated this feature and instead BCX now emulates the VisiCalc way of pointing to coordinates by allowing the user to use the arrow keys directly. In the latest version 1.2 of BCX, an

additional thing done was to fix a minor cosmetic bug which left a message on the prompt line intact after the printing was done (no big deal, but it was there), and added the ability to move the edit cue to the extreme left or extreme right of a formula which is being edited by using the Shift-Left or Shift-Right arrow keys.

BCX is a firm product now. The response from those who have already obtained BCX or the demo is -very- encouraging. So encouraging in fact that my head is getting so swelled that I am now having trouble going through doorways. BCX is the cumulation of an extreme amount of work, and it seems to have paid off in that the Model 4 community now has a serious, professional level spreadsheet which is both up to date and is fully supported. Response from users on the format of the manual is also extremely good. This added a few more inches to the size of my head. What's more, BCX will work with the 128K memory configuration, the XLR8er, SuperMEM, HyperMEM, and MegaMEM.

A couple of people asked me why I did not write a Model III version of BCX. The reason was that expanded memory was required, which is only available on the Model 4. To wit a couple of them asked why then don't I write a Model III mode version for the Model 4, to which I replied that maybe they should try using the Model 4 mode on a Model 4. I am really surprised how many people who own a Model 4 who have -never- used the Model 4 mode. Sure it's scary the first time. Granted, even I lived in the Model III mode for several weeks until I had built up several Model 4 program. But why should I go through the effort of writing a different version of a program to run on the same machine in a different mode. Were someone willing to pay me the several thousand dollars in development costs to do that, then -sure- I will do it.

In regard to those confused about no manual with the BCX DEMO: Make heavy use of the help command /H.

NEW MODEL 4 BACKUP UTILITY

Yes, FBACKUP is now ready for you. After using FBACKUP, you will -never- again want to use the BACKUP program which came with your DOS to perform file

backups. It is much faster and more intelligent, plus it provides as a subset the same commands and ease of use which is provided by BACKUP. In addition to that I put about everything which most people who used BACKUP wished such a program would do. Such features were to inform the user how many disks of a format identical to a sample supplied by the user are required for a backup job, take advantage of extended memory for a larger copy buffer, give the user the option to instantly purge destination disks for fresh backups, perform copy by class on a single drive without the need for the presence of a system disk, and to back up files in alphabetical order. There is even a command which allows you to choose where on the destination disk to start looking for free space for the backup. These make creating much faster and more efficient system disks a breeze.

There are basically only 2 things which you cannot do with FBACKUP. 1) You cannot perform mirror image disk backups. Use BACKUP, ONEPASS, QFB, or DISKCOPY for this kind of job. 2) You cannot back up files which are individually larger than the destination disk. Use the hard disk file backup utility which came with your hard disk software if you wish to do this.

FBACKUP is now being offered by CN80 for \$15 (US) plus \$2 shipping and handling. Very inexpensive for such a useful and powerful program.

NEW WORD PROCESSOR

A new easy to use word processor is now available for the Model I, Model III, and Model 4/4p/4d. It is called SCRIPT. If you like using Disk SCRIPSIT, but wish that it would do much more than what it does, then SCRIPT is for you.

SCRIPT provides you with some of the most useful, powerful, and capable features ever offered by anyone. SCRIPT allows you to perform virtually all of the editing and printing capabilities that you have ever wished or dreamed that an easy to use word processor would do, to include superscripting, subscripting, boldface, underlining, double-underlining, selecting different printer densities, output your printer's ENTIRE printable and CONTROL character set, slash zeros, pause the printer,

and will even provide your printer with a line feed after a carriage return if you need it. Of course these printer features are directly limited to your own printer's individual capabilities.

A unique printer feature of SCRIPT is its ability to print only a specific page or pages in a multi-page document. This is done by using the Special Commands P,P or P,S,P. When you are prompted for the next page, the Command Line will display "Press ENTER to print Page Num. X", where X is the page number 1-65535. Press ENTER to print the page, or press BREAK to skip printing of that particular page. Using this command, you can now print only desired pages of text to the printer if you wish, eliminating the need to print the document up to the page that you need just to correct an error or two found within the document.

Additionally, all printing fonts allowed by your printer are selectable, special control codes are recognized, as well as Printer Pause. And all of the above is even supported in Justified Text in all non-Proportional Space modes. Lastly, both parallel and serial printer support is provided for all of these capabilities.

But the extent of SCRIPT's power is not confined to the printer output alone, but in its text editing capabilities as well. With SCRIPT on the Model I, if you do not have the Lower Case modification, you will find that SCRIPT will operate flawlessly on your computer, as a special video driver will insure that all casing is adjusted as necessary, and yet still provide lower case support to your printer.

With the capabilities provided by SCRIPT, you can Delete, Unmark, Exchange and Find marked Blocks of text within your file without having to position your cursor to any particular point within your text. You can even Tab between the beginning characters of individual words in a forward or reverse direction, set the cursor onto a specific line within the document, scroll the video page by window or cursor 13 lines at a time up or down (21 for the Model 4 version), and delete a line up to and including a comma.

Several different Hyphenation blocks can be hyphenated without having to unmark each

block before defining another. Even further, with SCRIPT you can perform whole-text hyphenation without defining a hyphenation block around the text at all. If the program does not find a marked block, it assumes that the entire text is to be hyphenated.

The CONTROL key is defined as the CLEAR key for easier access. The SHIFT-CLEAR combination is required to perform the old CLEAR function as is present in Disk Scripsit.

The Tab key has been defined as the CONTROL-T key combination. On the Model I and III the cursor can be 'Homed' to the upper-left corner of the video via CONTROL-H (this command calls up a 15-screen HELP file on the Model 4), The current Date will be displayed by simply entering ?D on the Special Command Line, command line messages are displayed in lower case, computer interrupts are enabled, exit from =Disk Scripsit= directly to DOS is provided (with a cleared screen), the Command Line is at the TOP of the Video, the Tab marks are more pronounced, the Tab line is enhanced, High Memory settings are recognized, a Ghost Cursor is provided within the Tab Line, showing you =exactly= where you are on the text line, NEW and OLD file prompts are displayed during disk file saves, and lower case FORMAT LINE Commands are accepted (no more Format Line Errors because you forgot to hold the SHIFT key down, as with =Disk Scripsit=).

Another enhancement over =Disk Scripsit= is SCRIPT's ability to =automatically= load a text file when entering SCRIPT. This is done by following SCRIPT with the text file's name, such as SCRIPT TEXTFILE/DOC. This way you can do a DIR read from DOS, see the text file you wish to operate on, and load it right along with SCRIPT, without forgetting what it was called exactly after getting into SCRIPT.

On the Model 4, you can execute DOS LIBRARY commands with ease. This task can be accomplished from within SCRIPT by using the Special Command Q:doscnd, where 'doscnd' is the DOS command, with optional parameters.

On the Model I and III, the Cap-Lock function is activated by a more convenient

SHIFT-ENTER sequence. On the Model 4, the CAPS key is used. On all versions, a Cap-Lock indicator is present. Now when the program is in the Cap-Lock mode, the letter 'C' is displayed at all times in the upper-right corner of the screen, telling you that the capital mode is active. When it is gone, this indicates that the program is in the upper/lower case mode.

With the extended SCRIPT features, you can COUNT the number of WORDS in your text file. All non-printable text data is ignored for this count, giving you a truer count of exactly how many printer-printable words you have typed.

On the Model III the RIGHT Shift Key is accepted, unlike Model III =Disk Scripsit=.

A simplified keyboard command activation sequence is also provided, where CONTROL-L is the new LINE command (same as ENTER), CONTROL-G for PARAGRAPH, CONTROL-W for WINDOW and WORD, and so on. (Note that though some commands use the same control code, as is the case with WORD and WINDOW, or BLOCK and BLANKS, they will still operate properly without problem because they are accessed in different manners.)

Other enhanced features provided for the Model 4 version is the user's ability to 'preview' the printed data right on the video screen, use 9 user-defined keys to print repetitious information, a MOVE BLOCK command that will move a block from a location, deleting it from that position, and inserting its data at a specified location.

SCRIPT will be made available from CN80. It can be obtained in a configuration suited to one of the following DOS/Computer Configurations:

- * Model 4 TRSDOS/LS-DOS 6.x or DOSPLUS
- * Model III TRSDOS 1.3
- * Model I or III LDOS
- * Model I or III DOSPLUS
- * Model I or III or 4 Multidos
- * Model I NEWDOS/80 v1
- * Model I or III NEWDOS/80 V2

The SCRIPT package comes complete with a complete user's manual and support programs for \$37.95. plus \$2 shipping and

handling.

By the way, this article is being written using SCRIPT.

NEW SPELL CHECKER

Yep. A new spelling checker is being developed for the I/III/4. As of this writing, the program is nearly in its final form. It is based upon the SuperSCRIPSIT proofreading program, but will be designed to work with Disk SCRIPSIT, ASCII files, and SCRIPT in particular. It runs -extremely- fast, and allows you to both check and correct errors in your files. You can also add words to a customized user dictionary file to suit the spelling checker to your particular applications. More details will be provided as this project nears completion.

RESETTING THE DATA POINTER

For anyone who does a lot of BASIC programming on the Model I and III, you eventually come to a point where you must have a set of data which must be used over and over again. Often you will want to reuse only a certain portion of that the data stored in a DATA section. The usual method is to use the RESTORE command and begin re-reading. This can be complicated by an application which must re-read different blocks depending upon the current usage of the program.

The normal solution to this problem is to use RESTORE and read dummy data up to the point where the pertinent data is stored. This is OK unless the application has extremely large data blocks. If you use a Model 4, you can quickly get around this by using the "RESTORE linenumber" command, where "linenumber" is the program line number to set the data pointer to. But there is no such luck on the Model I and III.

But that does not mean that all is lost. If you understand the internal storage structure of Model I/III BASIC, you can get around this quickly and easily. BASIC for both the Model I and Model III maintain a pointer for their data reads at a 2-byte address stored in memory at hexadecimal address 40FFH. If you can poke an address here which is below the line number you wish to use, then the next READ command will read from that point. Thus if we wanted the data pointer set at line 1530, we could find line 1530, back up one byte, and

stuff that address in 40FFH.

This may sound complicated, but is actually quite easy. Here is the routine you would use to perform such a function:

```
X=0:R$=CHR$(205)+ CHR$(127)+ CHR$(10)+
CHR$(235)+ CHR$(205)+ CHR$(44)+
CHR$(27)+ CHR$(96)+ CHR$(105)+
CHR$(43)+ CHR$(34)+ CHR$(255)+
CHR$(64)+ CHR$(201): DEFUSR0 =
P E E K ( V A R P T R ( R $ ) + 1 ) + 2 5 6 *
P E E K ( V A R P T R ( R $ ) + 2 ) :
X=USR0(linenumber)
```

The above can be used in a single multi-statement line. Also notice that all the above lines are actually a -single-continuous line which has simply wrapped around on these narrow columns. Notice that variable X is preset. This is to ensure that the pointer for R\$ does not change after the USR0 function has been defined. "linenumber" is the value of the desired line number you wish to set the data pointer to. Feel free to alter this routine to suit your own application, to include making it more general for use by several routines to point to different data blocks.

Well, I've gabbed enough for this month. Pray for peace in these difficult times, and happy computing!
-David Goben

NEW AND IMPROVED MODEL III AND MODEL 4 ASCII FILE PRINT PROGRAMS by Henry H. Herrdegen

ASCFLPT3 FOR MODEL 3 See program
listing number one.

Since the publication of my original (written for my own use on a Model III) ASCFLPRT program (with minor changes) in CN80 Vol 2 No. 6 and on Disk #5, I made some improvements, added a few bells and whistles, and made it more compatible to run on the Model 4 in III mode.

For those who may not have seen the publication, the program can read a disk file which is in ASCII format, either a

BASIC program or a text file. You can choose to see it on the screen, 15 lines at a time, or print paginated hard copy. It basically replaces the scrolling screen and the non paginated printout available thru the LIST command of the unpatched TRSDOS 1.3.

The "polishing" I did increased the original 26 lines to 42, but added such niceties as an error trap in case you misspelled a filename or asked for a non existing file, checking if the printer is on line, and the choices to go back and see or print the open file again, to open another file, to end in BASIC or exit to DOS. The old program just ENDED, and in order to print a file you had just seen on the screen, you had to re-run the program and re-open the file.

Answer the first prompt with a filename, and you will be asked if you want to <S>ee it or <H>ardcopy it. Both answers will open the file, <S> to print it on the screen, 15 lines at a time, with <SPACEBAR> calling the next page. <H> checks for the printer status, and if ready, permits the input of a 60 character long line, or, (without typing it), just the filename as title. It then will print the hard copy, with 50 lines per page, title and page number on each page. If the printer is not ready, a prompt tells you to fix it and push <H> again, then repeats the title input prompt. At any of these 'H' prompts and at the end of a screen page, plain <ENTER> will close the file and ask you "what now?": <P>rint the file (back to the <S>/<H> prompt), <C>all another one, <E>nd or e<X>it. This also happens at the end of an uninterrupted file printing.

The prompts are self explanatory, wrong key entries are blocked out, but make sure the file you want to call is in ASCII, or you get garbage! You may have to use LIST to verify its status! BREAKing or shutting off the printer during a printout is also a no no! The file will stay open, and, depending on your setup, the computer may lock up. As it will do trying to read a machine language file. Bad medicine in any case.

As in the original, Mod III BASIC's CMD"Z" utility is used for hard copy in lines 54 and 74, and the "on line" code 63 for my DMP-200 is used in line 32. If you want to use the program under LDOS or NEWDOS, or have another printer code, you will have

to change these lines to suit your equipment.

ASCFLPT4 FOR MODEL 4 See program listing number two.

Since my original ASCFLPRT, written for my own use on my Model III, was, with a few minor changes, published in CN80 Vol 2 No. 6 and on disk #5, I have converted it for the model 4, made some improvements, and added a few bells and whistles.

The program can read a disk file which is in ASCII format, either a BASIC program or a text file. You can choose to see it on the screen, not scrolling, or print a paginated hard copy. It basically replaces the scrolling screen and the non paginated printout available thru the LIST command. Now, LS-DOS 6.3.1 H and D.Goben's new README/CMD will do some of the jobs this program is intended to do, but this is in one package and is more flexible.

The "polishing" increased the original 26 lines to 43, but added such niceties as an error trap in case you misspelled the filename or asked for a non existing file, checking if the printer is on line, and the choices to either see or print the open file again, to call for another file, to end in BASIC or exit to DOS. The old program just ENDED, and to print a file you had just seen on the screen, you had to re-run the program and re-open the file.

Answer the first prompt with a filename, and you will be asked if you want to <S>ee it or <H>ardcopy it. Both answers will open the file, <S> to print it on the screen, 22 lines at a time, with <SPACEBAR> calling the next page. <H> checks for the printer status, and if ready, permits the input of a 60 character long line, or, (without typing it), just the filename as title. It then will print the hard copy, with 50 lines per page, title and page number on each page. If the printer is not ready, a prompt tells you to fix it and push <H> again, then repeats the title input prompt. At any of these 'H' prompts and at the end of a screen page, plain <ENTER> will close the file and ask you "what now?": <P>rint the file (back to the <S>/<H> prompt), <C>all another one, <E>nd or e<X>it. This also happens at the end of an uninterrupted file printing.

The prompts are self explanatory, wrong key

entries are blocked out, but make sure the file you want to call is in ASCII, or you get garbage! You may have to use LIST to verify its status! BREAKing or shutting off the printer during a printout is also a no no! The file will stay open, and, depending on your setup, the computer may lock up. As it will do trying to read a machine language file. Bad medicine in any case.

The "63" code used in the printer check at line 34 is for my DMP-200. if you have another printer code, you will have to change it to suit your equipment. Or delete lines 34 to 38 to take out the check altogether (I don't recommend it!).

If you have any problems, feel free to contact me thru CN80, and I will try my best to help you.

-Henry H. Herrdegen

MONTE'S CP/M WINDOWS REVIEW

by Cottin Picken Maverick

Well folks, I been fairly busy picking arrows out of tender spots, and trying to keep my toes out of the 41 below we had here in Wyoming for about a week. Seems like no matter how hard ya try some injun from that Trsguru tribe has got to aim their tommyhawk in our direction. That's pronounced "triss-goo-roo", and they are part of the black bottom swamp tribes, who were run out of Florida some years ago by the MySwamp land boomers. Good thing their aim is as bad as their understanding of their computers. Cuz they keep trying to tell us that CP/M is old hat and ain't good for nothin no more.

Well enough of that, I want to fill ya in on some real exciting stuff.

Anyone who remembers the five star review of Montezuma Micro's CP/M in 80 Micro March 1985, will remember that it was rated far and above even CP/M Plus that Tandy sold. The price at that time was \$ 199, (Now it's only \$49 from CN80) and supported about 40 different disk formats. Now Montezuma Micro CP/M supports over 125 disk formats, including 40 and 80 track

drives, single and double density, single sided or double sided disks.

With the easy to follow instructions and the function command hot-keys provided it really is easy to use. And it opens up a whole new area of software that can be run on our TRS-80 Model 4 computers. I'll tell ya more about all that at a later date. Now I want to tell ya about that thar Monte's Window.

First ya have to have 128K installed to take advantage of Monte's Window, but that should be no drawback cause ya need to have 128K in yur computer anyway to take advantage of the automatic M drive, which the main program calls up whenever ya boot up. Works like MemDisk, so that ya have an extra RAM drive to work with.

Windows comes with a one command line to copy it from the distribution disk to yur working copy of yur CP/M system disk. It also comes with a manual text and a document print program, that will print out a 22 page manual to guide ya through the use of windows.

What is windows? Well, it's a pop out window that ya can call up anytime, except when another program is reading or writing to a disk. The original screen is saved along with the cursor location so ya can return to what ya were doin after using one of the Window options.

Those choices come in a menu that gives ya a notepad window, a calendar window, a calculator window, an index card window, along with a CP/M System window. and a setup window.

Ever wish ya could stop in a middle of a program and do some calculations without having to dig out one of those little calculators with keys made for a mosquito to dance on. Well the Windows calculator option drops a window where ya can figure right on the screen and then go right back into the thing ya was doin. The results of yur figurin remains on the screen so ya can insert it in yur letter or report.

The calendar displays any month from 1700 to 2200. The note pad will hold 24 lines by 80 characters and terminates lines with end-of the line markers, with an easy to use

editor. It even scans the index card file for your important dates like meetings, appointments, birthday reminders, trips to the vet and etc. before it prints the calendar on the screen and highlights the dates you need to remember.

Index cards let you fill out 3 by 5 cards, up to eight lines of type and organizes the index cards by subject line. Index cards have a powerful search function where you can enter a partial or complete text if you want to search your index card file, rather than scroll back and forth.

Any of the CP/M system commands can be run from within the Windows, like displaying a disk directory while in another program. Or change current drive status anytime.

When you are finished with Windows you pop right back to the what you were doing and Window disappears. You don't lose your notes, not even if you switch to another application program or reset to CP/M ready.

All in all it's a great inexpensive package (was \$49, now it's only \$14 from CN80). By the way Monte's Windows received a five star in all categories in 80 Micro, not many programs received that kind of review in 80 Micro.

By the way if you are looking for 80 Micro to fill out your collection I understand that CN80 still has a barn full. Just drop them a note for what you're looking for and they will send what they have. Along with a bill for \$3 each to cover shipping costs.

Well I gotta go feed the critters, so if you all will be patient I'll tell you about the rest of those packages from Monte sometime later. But don't wait for me to get to it. Order one and see for yourself.

-Cottin Picken Maverick



MY FAVORITE DOS A REVIEW OF MULTIDOS

by Paul Wilcox

I use two DOSs MULTIDOS 80/64 2.0 and DOSPLUS IV, I like both very much. But, my favorite DOS is MULTIDOS. The first and foremost reason I like it is a VERY BIG MEMORY in basic! With 6 buffers open I have 40,333 bytes of program space, this is a lot more than anybody else offers with any other operating system! There is one really cool thing MULTIDOS can do, read from Model 3 disks that are formatted with TRSDOS 1.3 without the convert command.

The next reason is when you type a line number and forget to put a "L" in front of it MULTIDOS lists the line and does not erase the line, boy how many times have I erased a line with other DOSs. To erase a line one has to preface the line number with a "D" i.e. "D123". Other reasons are a very nice manual, now manuals are things that one person likes and another person dislikes, but the manual is not verbose and has "ALL" of the "LIBRARY COMMANDS", "SYSTEMS UTILITIES", "SUPERBASIC", "SUPERBASIC FILE MANIPULATION", "SUPERBASIC FILE ACCESS", and "TECHNICAL" page numbers on two pages facing each other, this in my opinion is the way to have the contents pages be written.

DOS COMMANDS

The DOS commands are standard fare having just about everything everybody else has and does not have. But MULTIDOS does have a couple of nice features that others don't, for example when you type a DOS command and execute it and want to do it again just press the ENTER key and it will do it! This is great if you are BACKING UP many disks. MULTIDOS has a real fast way to list just the DIRECTORY and that is to just touch the number of the drive. There is a program for testing the speed of a drive which beats buying a utility.

MEMDISK is the easiest MEMDISK there is to use of all the DOSs I have used, to assign memdisk as a drive type the command "MEMDISK:d" and it is done in the blink of a disk drive. And if you would want to assign the SYSTEM to MEMDISK just type "MEMDISK (S)" and it is done. One other thing I should mention is a command called "CDIR:d" which clears the DIRECTORY of

deleted file so RESTORE will find nothing to restore. If you issue a CDIR:d (CLEAR) this will remove all DIRECTORY entries leaving you with a disk that looks like it has just been formatted. Real powerful if you wanted to protect a program with a "HIDDEN BOMB" from someone who did not have the right "password" from inside a program. One other nice thing is a program called CLRDSK:d if you issue this command it formats all the unused space on the disk to the original byte pattern. I use this command to erase files so when I extended a new file I do not overwrite old stuff. In the past I have picked up trash in a file because I did not have clean space so this eliminates the problem from ever happening.

SPOOL

Spool is real easy to use also just type "SPOOL" to activate and "SPOOL (OFF)" to deactivate. The FORMS command is real easy to use, featuring margins, width, number of printed lines, page length, the ability to send or not send line feeds after a carriage return, route to RS232, turn off, initialize line counter, and save the values to the system to make it permanent, if that is what you wish to do.

The other things in DOS are more or less standard by my account compared to other DOSs. Except "V80 and V64" which allow me to switch between the "80" and the "64" screen size, now before you say why would I want to even look at that "old 64 screen" just ask yourself have I ever had a program that I wanted to change to "80 screen size"? If the answer is yes than this little gem is the best thing that ever came down the pike! I use it to swap old programs into the wide screen and I find it invaluable. One other thing is that the screen is twice as fast to paint-on in "64", remember 1024 is just about one half 1920, so the computer only has to do half the work. There is one program I wrote in "BASIC" that I run in "64" just for this reason, I didn't have to put much data on the screen so the small screen works just super. Having the ability to use the "64 screen size" may not be the most important thing in the world to you but I like the ability to choose! After all I have a machine that can do both so why would I want someone else to make the choice for me.

One other program I must mention is "VFU"

for VERSATILE FILE UTILITY, it allows you to COPY, EXECUTE, HARD COPY, MOVE, and PURGE files from a menu. Like its name implies it is very versatile allowing COPYING with "ANY CONDITION, CREATE ONLY, DIFFERENT DATE, EARLIER DATE, OVERWRITE, and SIZE DIFFERENCE" I have to admit that I use this thing more and more as time goes on, in the past I used it with just the brute force that it has but as I use it more I find that it has a real finesse side that is so much faster. Oh sure you can do all kinds of filtering from the DOS prompt line but I am not good at remembering syntax, so VFU lets me do stuff and I let the computer remember the syntax I just answer the prompts. In my opinion the computer should do the remembering and I do the telling. Also MULTIDOS has a HELP file that is the best I have seen for the syntax of how to do a command. And in my opinion when 6.7 left this out HELP I left 6.7 out as a usable tool!

BASIC

This is the best BASIC that I have ever had the pleasure to use! I have used TRSDOS, LDOS, TRSDOS 6.7, and DOSPLUS IV, and I do not think hate is too strong a word to use when I think of LDOS and TRSDOS 6.7. These two DOSs are just too fussy for my tastes, before I would use either one I would go to MSDOS, and I have no wish to do that. Now on the other hand DOSPLUS IV is a very nice DOS and has a nice basic that has great enhancements. I have used it for six years and I have always been very pleased with it, use it all the time to run my favorite word processor LeSCRIPT, has a nice little DOS shell and a very nice BASIC. The one reason I do not like it is the small memory, 30,000 bytes with 1 file open. Now lets get back to the topic of MULTIDOS.

MULTIDOS has the best basic I have ever used! The first and one of the most important things that you can do in MULTIDOS BASIC is almost any DOS command! Just type CMD "command" and you can do anything from APPEND to ZAP! I like to program in basic and the ability to do DOS COMMANDS in BASIC I find to be indispensable. One of the things that I find amazing is the ability to run a DOS program "VFU/CMD" from BASIC, just a fantastic program that I mention in the DOS section. The huge memory in BASIC is just what I

need for programing! Just think what a space like 43,000 bytes is like to program in, in a word "heaven"! The other thing that I am fond of is that I do not need to put spaces between "KEY WORDS" first of all I can not remember were to put them, second it takes time to type them, and third and most important they waste program space.

Some of the other little creature comforts are a <.> list a line, <,> edits a line, </> list "break in" line, <up-arrow> list previous line, <down-arrow> list next line, <shift-Up-Arrow> first line, and <shift-down-arrow> last line. Just a little better than TRSDOS 1.3. Also a feature is single <key> commands like <C> to CONTINUE, <R> to RUN, <S> to SAVE, and <P> will print a page of program line starting at the last listed line. Then we come to my favorites first <F><ANY ASCII CHARACTERS> list the program line numbers containing <ASCII-CHARACTERS>, (I find this to be one of my favorite tools), <M>ln1,ln2 moves line#1 to line#2, and <N>ln1,ln2 duplicates line#1 to line#2.

There is a label resolver to find errors in syntax, line number size, goto lines that don't exist, and goto undefined "LABELS". While we are on the subject yes in MULTIDOS you can use "LABELS", I never use them because I like line numbers better, line numbers are logical and can be listed by just typing the number where as "LABELS" are not logical to me (maybe to you?) and I find it very difficult to read a program not written by me to find the "LABELS". I also think GOTO40500 takes up less program space, but this is just my preference. The line renumbering program is powerful and easy to use, it lets you renumber groups of lines or the entire program. There is global edit program that is quite powerful but I have never had a use for it. A very powerful little basic program helper is <@> that cross references variables, numbers, and <KEY-WORDS>. Boy I can tell you that this is just a great big tool when it comes time to maintaining variables used in a program, or to find all references of a <KEY-WORD> that you only use once or twice. This really helps when you are looking at someone else's program.

There are ten <CMD "x"> commands for break,<C> for compress (one of my favorites) this removes all spaces in the

BASIC program, <D> debug, <E> disk I/O errors, <P> packer (another favorite) takes several program lines and concatenates them into one long line if this is possible logically, <Q> string sorting, <S> return to DOS, <U> unpack, <V> display variables in use (one more favorite) a great tool to find out if you are using variable wastefully, <X> remove remarks (I like it) from a BASIC program. The other CMD "DOS COMMAND" are the way you do any DOS COMMAND from Basic.

The ERASE command removes array's. A nice command is an INPUT @ command that is extremely powerful allowing prompting, variable type, length, automatic enter, using or not-using keyboard input. INPUT @ can make a great big difference in the way you handle data entry.

SORT is a multi-key numeric and string sort. Very powerful.

One SUPER command in basic is TRON X and it has 7 parameters, 1 trace program flow to printer, 2 print each BASIC program statement to the bottom of the display, 3 single step each statement, 4 full program line single step, 5 single step statement, 6 disable single step and printing, 7 print line where error occurred. It would take a page to explain all the ways you can combine these things, so just let your imagination go and you can probably do it. Oh I must also say that you can embed these in the BASIC program so you can see what's happening just when you need it. Really a good programing tool.

The system that I use is a Model 4 non gate at 5mz, Anitek video PC-SET, 360K 1/2 height, 720K 1/2 height (TOSHEBA), 40 MEG Seagate ST-251 in a Power-Soft external case, I also changed the video display to green. I find the system to be very easy to use. I once had a TEAC 720K but it did not operate well with DOSPLUS 4, one bonus to the TOSHEBA 720K is that it is as short as stock 180K RS drive, so it fits real nice. I have also installed a female 120 Volt outlet in the metal plate where the power cord comes in, that goes live when I turn on the computer for my printer. I guess my machine is not stock anymore, well I like it a lot better this way! The printers I use are both OKIDATA, the main one is a 390. This is an absolutely super printer

because it can print very near the top of a page, has a park for form feed, can handle small mailing labels, and COD-UPS labels which are very stiff. The other one is a 82 with a PC-WRITER chip kit from RAINBOW TECHNOLOGIES, slower than the 390 but very easy to use. I have a single sheet feeder for the 390 and it just never jams, but feeding single sheets of any size one at time is just the best. The hard disk driver for MULTI-DOS is really cool because you boot the machine from a DATA DISK, yes special data disks can be created at anytime after you set up the hard disk. The disk does not lose any space in the process either. One point I feel I must mention although this hard disk steps @ 28ms, the one it replaced stepped @ 85ms, I feel the performance gain is maybe 10%. I have wondered for a time now if it is possible to speed up the transfer rate? The reason I ask this is the drivers where all built for the 2mz MODEL 3's. I would think that a faster interleave is possible and possibly a boost in the transfer rate.

I really enjoy programing in BASIC and I use 21K of program space for subroutines by LEWIS ROSENFELDER in my main data base program. The main file is now up to 700K of data, over 2800 names and addresses, and I can find a search key in just ONE SECOND. I use BASIC FASTER AND BETTER and BASIC DISK I/O FASTER AND BETTER these are just fantastic books, my copies are dog eared and full of tabs because I use them so much. Mr. Rosenfelder I would like to thank you for all the programing help your two books have provided and I can recommend them to anyone who likes to program, they are so full of information that sometimes I have to read sections 3 or 4 times to get all of the stuff he is talking about but it is worth the effort. Mr. Rosenfelder wrote a book for MSDOS and I am sorry to say I do not have a copy, can anybody help?

Well this is getting too long and I have been writing it for several months now, and would like to write more on some of the ways I have found to write and maintain programs and about hard disks. But these can all be done at a later time. So in conclusion MULTIDOS is a great DOS and has some great advantages over other operating systems and I just love it. Keep those green screens glowing. -Paul Wilcox

MULTIDOS written by Vern Hester for Model I, III or 4/4P/4D \$89.95
Distributed by:
David Welsh
Alpha-Bit Communications Inc.
Box 20067
Ferndale, MI 48220
(313) 581-2896

(Editors Note) Once again we must remind everyone that in any program, word processor, spread sheet, DOS [disk operating system] or Basic interpreter program, that there is no such thing as "one size fits all."

Like personal taste, everything is relevant to the individual, and the task to be performed. But it is nice to be able to look at a product from anothers viewpoint. It might be just the thing you are looking for to round out your software collection.-Ed.

FILE CABINET UPDATE

Work on the File Cabinet Library has finally advanced to the point that we can safely say that the new Model 4 Catalog will be available about February 15th. If you would like to have your catalog (MODEL 4 ONLY, Remember) updated. Just mail your present catalog disk to us and we will mail you back the updated Model 4 Catalog. No need to send return labels, cartons, or postage.

NEW SUBMISSION POLICY

We have instituted a new submission policy in regard to the File Cabinet, and that is if you submit a program or a group of programs to Computer News 80 or the File Cabinet, the understanding will be that the programs are to be used as we deem fit. They will be used either in the program listings of CN80 and placed on our disk series, or placed in the file cabinet.

With the exception of shareware programs submitted by authors, all programs submitted are deemed to be placed into the Public Domain. And it should be so stated in your letter or in the remarks of your program that it is released into the public domain.

If you have a collection of programs on a disk that are not already part of the File Cabinet Library, we will trade you the Library volume of your choice for your disk, (or disks). But the intent here is a full or nearly full disk from you. Not one program per disk in trade for a disk from the library with 15 to 20 programs on it. That would amount to several hundred programs in trade for a few. Let your good judgment be the your guide, be fair with us and CN80 can be more than fair with you. Remember it is all to assist and bring new programs within reach of your fellow user that the File Cabinet exists in the first place.

NEW FILE CABINET PRICES

Since taking over the File Cabinet Library from Tim Sewell, we have been struggling with the problem of copying your disk for the \$2.75 price.

Since we sell disks at super low prices, many have bought disk from us, then sent the same disks back to have them copied from the file cabinet. It just didn't make sense and the copy fee of \$2.75 just barely covered the labor cost of copying disks anyway. But we realized that if you had to buy over 60 disks to get close to that price level that the investment at one time was a little steep for most users.

So here is what we came up with, which should be easier for you to order File Cabinet programs, and easier for us to fill your orders.

LIBRARY VOLUME PRICES

Effective February 15, 1991

1 TO 10 VOLUMES	\$3.50 Each	S&H \$2.00
11 to 20 VOLUMES	\$3.25 Each	S&H \$3.00
21 or more VOLUMES	\$3.00 Each	S&H \$4.00

(Note: We will no longer copy to your disks. The above prices do not apply to the Montezuma CP/M Public Domain Library. See the price schedule published in that Catalog listing.)

LIBRARY DESCRIPTION AND WHAT DISK FORMAT THEY HAVE.

MODEL 1/3 AND ORCH90 CATALOG AND LIBRARY VOLUMES

are sent on 5-1/4" single sided single density 35 track disks. These disk catalogs can be read by almost any of the popular model III or Model 4 disk operating systems (DOSs), except TRSDOS 1.3.

Owners of TRS-DOS 1.3 must transfer the files from the SS/SD 35trk disks to disks formatted with TRSDOS 1.3, using the CONV-ert command which is on your TRSDOS 1.3 system disk. Or, if you want us to send you your order already converted to your TRSDOS 1.3 format you must tell us, and add \$4.00 to your order for the conversion service.

MODEL 4 CATALOG AND LIBRARY VOLUMES AND THE HI RESOLUTION CATALOG AND LIBRARY VOLUMES

are sent on 5-1/4 180K Single Sided Double Density 40 track disks formatted with TRS/LSDOS 6.x.x. One volume on each disk.

TAKE YOUR PICK

5-1/4 180K single sided double density or 3-1/2 720K double sided double density?

More and more users are finding the advantages in having at least one 3-1/2 disk drive in their system. And now that the cost of the 3-1/2 disk has fallen to a reasonable level it makes sense to archive your data on the more resistant to damage 3-1/2 disks. The cost of replacing a 5-1/4 disk drive with an half height 3-1/2 drive is slightly higher, but very little, about \$10. Plus it is a lot less than installing an 80 trk 5-1/4 drive. But remember you still want to have at least one of each type in your system. All the same and it would lock you out from much of the software that is available on 5-1/4 disks only. The minimum system, in our view is still three drives minimum. Unless you have a hard drive, you should really consider an external disk drive with two 3-1/2 or at least one 3-1/2 disk drive in it. Keeping the two 5-1/4 drives that are built into your computer.

That's our reasoning; now what's our price policy for File Cabinet Volumes placed on 3-1/2 disks?

Since **FOUR Model 4 Library Volumes***,
from the **File Cabinet Catalogs** listed below

The **Mod 4 Catalog**
The **PostMaster ICON Library**
The **HI RESOLUTION/MacPaint**
The **SOFT FONT** for **Allwrite Library**.

can be placed on 3-1/2 inch disks the prices per library volume will remain the same per number of volumes ordered, except the order must be for **FOUR OR MORE** library volumes per order. You may mix and match the order from different **File Cabinet Volumes** named above if you wish.

***A Library Volume** is one disk with as many programs on it as its format can contain.

(Note: Because **Model 1/3** and **Orchestra** 90 disks are single sided, single density 35 track, more **Library Volumes** could fit on a **720K** disk, but it is impractical to format 3-1/2 disks with 35 tracks so that several **Model III DOSs** could read them. So at this time we will not offer these **Library Collections** on 3-1/2", unless our readers feel there is a demand for them in that format.)

CATALOGS ON A DISK ARE:

- 1.) **MODEL 1/3 CATALOG**
- 2.) **MODEL 4 CATALOG**
- 3.) **HI RESOLUTION/MACPAINT CATALOG**
- 4.) **ORCHESTRA-90 CATALOG**

Each **File Cabinet CATALOG ON A DISK** is \$2.00 each, non-refundable - postage included.

CATALOGS THAT ARE PRINTED

- 5.) **PostMaster ICON CATALOG SHEET**, No Charge.
- 6.) **PostMaster ICON Reference Guide** \$10.00 refundable with an order for 15 or more disks.
- 7.) **Allwrite Soft Fonts** for **Laser** and **Deskjet** printers. No Charge

NEW ADDITIONS TO THE LIBRARY

New additions will be listed in **CN80**, until a new catalog on a disk is available or a printed catalog is reprinted. It is expected

now that the catalogs will be updated once a year with supplement sheets being issued as new volumes are added.

We hope that these programs have helped to make your use of your computer more enjoyable and productive. We certainly appreciate the support that you have given us to keep these libraries alive and growing.

OPEN FORUM

=====

LTR: Are **Model 4's** becoming too old to remain fixed when repaired, or is **Radio Shack** now unable to find people who know and understand that generation of computers?

Since summer, both of our machines have had to go into the shop repeatedly for drives that would read but not write, a jittery screen, failure to communicate with the printer, and several other things. On some occasions, the **Radio Shack** shop either returned a machine that was no better than before or the machine would redevelop the same problems a few weeks later. It's as though they would, say, replace a power supply without checking to see if a capacitor was leaking, or replace a drive without checking alignment of the new drive.

My wife and I have kept up our service contract because of past satisfaction, but this year has posed nothing but problems. Even as I write this letter, the screen is throbbing. But in a minute or two it will stop, then start again. This is after the machine had been brought in for the same symptoms earlier in the week and returned to us, allegedly repaired, 24 hours later.

In addition, one or the other machine has come back to us from time to time this year with cellophane hanging out of the back, a screw missing, or heaven knows what.

The time seems to have come for us to conclude that a service contract with **Radio Shack** is no longer a good value, although up till now we probably have gotten our money's worth.

If repairs are going to become a growing problem for us Model 4 owners -- and imagine the concern that owners of Model III machines must feel -- then the day of the demise of a real workhorse computer will be hastened.

From time to time I have read articles on troubleshooting Model 4 problems, but they don't help people lacking the professional testing equipment required to find the source of the problems and fix them. But this has given me an idea:

Maybe Computer News 80 can perform a real service by calling for a repair network made up of users who know and love the Model 4. Maybe a section in your classified pages can be devoted to repairs. Would anyone be interested in taking on the hassle of repairing and shipping out computers? Maybe these same people might sell their services in another way -- offering to install an amber screen, a high-res board, extra memory, drives of greater capacity, or any other embellishment that many of us owners would like to have but are hesitant to tackle ourselves. This could improve business for third-party hardware vendors who advertise with CN80.

Give it some thought. I think many of us diehards would take advantage of such a network of repair people if we knew we could count on their work to be thorough!

Meantime, let's hear from other people who have experienced problems like my wife and I have had. If there are enough responses, then people with the knowhow to delve into Model III's and 4's might be encouraged to come forward.

Sincerely yours,
Henry A. Blumenthal

A: Radio Shack service has always been a problem, depending on the quality of the people in each service center. Some very good, some who shouldn't be allowed inside a computer. But you are right Henry, those service people with hands on experience with the older computers are becoming rare in Tandy's service centers.

CN80 would be more than happy to publish without charge, the name, address, and phone number of anyone who would like to

repair or work on these computers, either part time or full time. In fact we have searched for three years to find someone who would perform this service for the TRS-80 community. David Dalager is the only one who we know of who is presently active in this capacity. There has long been a need for this type of independent service. If interested drop us a line or give us a call.
-CN80

LTR: I spoke to you last week on the phone concerning the CN80/BAS program and a "possible" problem. It was really my problem. I had changed the BASIC/CMD.BASIC program with the patch I had received from MISOSYS called BAS/FIX printed on page 17 of TMQ V.i. The problem presented itself on the very first entry. The basic program found an "error" because of the FIX.

What I had to do was to change the OPEN "I" command on line 780 to OPEN "D" command. Then it works. I also did some cosmetic changes on the inverse printing to the screen using the CHR\$(16)" CHR\$(17) commands. All I did was to add a space before and after the current statements inside the quotes so that the letters at either end are more distinguishable. I also modified the the command table on the from the #1 menu which shows entries stacked instead of all in a row (for better reading). You will notice the last several lines in the program I have added line 63999 END and 64000 SAVE "CN80/BAS" which I do whenever I encounter a BASIC program I want to modify. All I do after modifications is to RUN 64000 and I've got all the changes SAVED.

So far I have found the 1988 volume a real treat as it has the philosophy of the editors of CN80 and their approach to the TRS80 problems which I have found from personal contact, TERRIFIC! (I have all the '89 & so far '90 volumes.) Each month when I receive CN80, I read my other mail first because once I start with CN80 I can't put it down! You guys do an excellent job and have helped me tremendously with any of my questions or problems.

-W. N. Sanford N. C.

A: Thanks for your praise, what can we

say, you're making us blush!

LTR: I took the liberty of modifying the MENU/BAS file that read/lists the FILE CABINET catalog disks. What I've done is include a way to 'tag' the disks as you go through them, and later list the disk names to screen or printer. I think this allows a somewhat easier way to complete the order form when you're totally finished looking at ALL THOSE TITLES!

You can accumulate up to 500 disk names as written - I doubt that many orders will have that many, but it can easily be changed to more (or less). Just don't shut the machine off - it only holds the names in memory; they're not saved to disk (yet!). I put the quick instructions for the additional features in the program itself, so no document file is included.

Now, this is for the current version. I understand you're revamping the FILE CABINET disks - don't know if you're changing the MENU/BAS program for that. Otherwise I may have to change this program in the future.

I hope this little addition will benefit the users/readers.

-Danny C. Mullen

A: Thanks for the input and yes we are revamping File Cabinet including the Menu/Bas program. But your suggestion is a good one and we will see if we can incorporate it into the new File Cabinet Catalog on a disk. -CN80

LTR: I own a Newclock80 battery-powered clock, am using it on my TRS-80 Model 4 computer, and have been for several years.

Enclosed please find hardcopy listing and disk containing three patches and the related JCL (all in one ASCII file) that I have received from Alpha Products. The patches I have received to date (last one received in May, 1987 for 6.3.0) were for previous versions of TRSDOS/LS-DOS. Now that I have upgraded to 6.3.1, I find that

none of the patch(es) previously provided will function with this version. I wrote Alpha Products in September, 1990, requesting an updated patch, and, to date, have received no reply.

Will you please poll your "gurus" and see if anyone (including Alpha Products) has (or knows how to make) a revised version of X63/FIX that will patch Version 6.3.1 for the Newclock 80?

Also, I am one of those folks who ordered the Model 4 Catalog from The File Cabinet before CN80 got involved, and I never ordered my first free disk (wasn't that how it worked?). If I can still get one, I think I want MD4COM02 - the one that contains (the latest version of) XT4, unless there is a better terminal program (not a BBS) that supports Hayes modems and dialing from a directory on file, etc.

-P. H. L. Bedford, TX

A: No, that's quite how it was supposed to work. A free disk or refund of the catalog purchase price was to be made with the first order from the catalog. But your free disk is on the way. XT4 is still one of the easier communication programs to use with your modem. Next to Mel Patricks FastTerm of course.

Can anyone can solve the Newclock problem? If you need a copy of the patches for 6.1 to crack it, let us know and we will send you a copy. -CN80

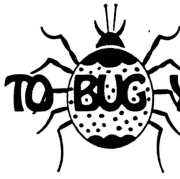
Q: There must be a Profile 4+ patch for use on a Hard Disk. Does anyone know of such a patch?

Searching for patches I noticed that the series of Profile 4+ patches published in CN80 Vol. 1 No. 10, do not include several patches as supplied in the complete Profile 4+ patch file from the File Cabinet which are on disk MDUTIL17.

-Pieter Plomp, Amsterdam, Holland

A Reminder - If your mailing label ends with 91/02 this is your last issue. Time to renew.

WE HATE TO BUG YOU BUT



WHEN WE GOOF - WE REALLY GOOF In last month's issue on listing page 24, we repeated the same VRLSAVE/BAS listing under VRLLOAD/BAS (Program Listing Three) that is shown on the next page (pg.25) as VRLSAVE/BAS (Program Listing Four). Our apologies to the authors, David Miller and Robert Keegan, and to you our readers for any confusion we might have created.

To those of you who do not like to type in your own programs, a reminder. These programs will be available on disk number 12, ready to run in Basic.

VRLLOAD/BAS PROGRAM LISTING NUMBER THREE (Corrected for Vol. 4 Number 1).

```
1 REM VRLLOAD/BAS By Robert R. Keegan
2 REM Load a /VRL file to the screen from BASIC
3 REM using Y/X scan & Vertical Run Length Encoding
4 REM Does NOT require GBASIC or BASICG
5 REM Suggested by David P. Miller
6 REM in CN80 VOL3 #8 P 36 AUG 1990
7 REM Minor changes by David P. Miller
10 DEFINT B-Y
20 CLS:SYSTEM "DIR /VRL (A=N)":' Display /VRL files
30 FL$="":INPUT "Full filespec (nnnnnnnn/VRL:d) ",FL$
40 ON ERROR GOTO 50: OPEN "I",1,FL$:CLOSE 1:GOTO 60
50 PRINT "INVALID FILE NAME!!! Try again.":RESUME 30
60 ON ERROR GOTO 0:OPEN "R",1,FL$,2:FIELD 1,1 AS BT$,1 AS BC$
70 CLS:OUT 131,(1+2+64):'Graphics, R/S waits, Inc Y after writes
80 FOR X=0 TO 79:OUT 129,0:OUT 128,X:' Set X/Y, vertical loop.
85 REM Get char/counter for vertical column, display
90 FOR Y=0 TO 239:GET 1:FOR I=1 TO ASC(BC$):OUT 130,ASC(BT$)
100 NEXT I:Y=Y+ASC(BC$)-1:NEXT Y:' Finishes a column of bytes.
110 NEXT X:CLOSE 1:' Next vertical column of bytes
120 IF INKEY$="" THEN GOTO 120
130 OUT 131,0:' Press any key for normal screen.
```

ASCFLPT3/BAS PROGRAM LISTING NUMBER ONE by Henry H. Herrdegen

```
1 'ASCII File Print, mod 3' prints ASCII file from disk, paginated hardcopy
  with 50 lines/page and title, or up to 15 lines on screen.
2 'by Henry H.Herrdegen., (87 03 22), 90 11 28 on Disk:
10 CLS: CLEAR 1000: DEFINT A-Z: DEFSTR F,I-K,P,T: I=CHR$(95): J=CHR$(8): GOTO 18
12 K=INKEY$: PRINT I;: GOSUB 16: PRINT J;: GOSUB 16: IF K="" THEN 12
14 IF ASC(K)>96 AND ASC(K)<123 THEN K=CHR$(ASC(K)-32): RETURN ELSE RETURN
16 FOR D=1 TO 200: NEXT: RETURN
18 PRINT @21, "Print ASCII file." @84, STRING$(19,"-"): PRINT
20 PRINT @198,;: LINEINPUT "Enter Filename you want to print: "; F: PRINT
22 IF F="" THEN PRINT: PRINT " What do you want ?": PRINT: GOTO 80
24 PRINT @264, "Print on <S>creen only or a <H>ardcopy ?"
26 PRINT TAB(6) "(NOTE: a `down arrow' used for line spacing"
```

con't on the next page.

```

28 PRINT TAB(9) "will upset the line count on screen !)": PRINT @305,;
30 GOSUB 12: IF K="H" THEN H=1: ELSE IF K="S" THEN 52 ELSE 30
32 O=PEEK(14312): IF O=63 THEN 40
34 PRINT @515, "Printer is not ready ! Fix it and press <H> again ! ";
36 GOSUB 12: IF K="H" THEN PRINT @450,;: GOTO 32 ELSE IF K<>CHR$(13) THEN 36
38 PRINT: PRINT "      What is it you want now ?": GOTO 78
40 PRINT @515, "      Do you want a Title on your Hardcopy pages ?      "
42 PRINT "      If so, enter one line (to the end of the screen),"
44 PRINT "      (the title will be indented 5 spaces, and the page"
46 PRINT "      number is printed in any case at column 70.): PRINT
48 PRINT TAB(8) "For just Filename as title press <ENTER>. "
50 PRINT TAB(8);: LINEINPUT T: IF T="" THEN T=F
52 PRINT @128, CHR$(31): ON ERROR GOTO 90: OPEN"I",1,F
54 IF H THEN CMD"Z","ON": GOTO 72
56 IF EOF(1) THEN CLOSE: GOTO 74
58 LINEINPUT#1,P: Q=LEN(P): IF H THEN C=240: B=160: A=80 ELSE C=191: B=127: A=63
60 IF Q>C THEN L=L+3: X=4 ELSE IF Q>B THEN L=L+2: X=3 ELSE IF Q>A THEN L=L+1:X=2
62 L=L+1: PRINT P: P=""
64 IF H AND L=>50 THEN LPRINT STRING$(12-(L-50),10): GOTO 72 ELSE IF H THEN 56
66 IF L+X<15 THEN X=0: GOTO 56
68 PRINT @962, "(file: "F")" TAB(32) "use <SPACE BAR> to continue. ";
70 GOSUB 12: IF K<>CHR$(32) THEN 70 ELSE CLS: L=0: GOTO 56
72 L=0: G=G+1: LPRINT TAB(5) T TAB(70) "pg:" G: LPRINT: LPRINT: GOTO 56
74 CMD"Z","OFF": IF H THEN LPRINT: LPRINT TAB(5) "End of file."
76 PRINT TAB(20) ">> End of file. <<": PRINT
78 PRINT "      Do you want to <P>rint this File,"
80 PRINT TAB(21) "<L>oad another File,": PRINT
82 PRINT TAB(21) "<E>nd and remain in BASIC,"
84 PRINT TAB(17) "or e<X>it to TRSDOS ?": PRINT TAB(22);
86 GOSUB 12: IF K="P" THEN PRINT @256, CHR$(31): GOTO 24
87 IF K="L" THEN PRINT @192, CHR$(31): GOTO 20
88 IF K="E" THEN CLS: END ELSE IF K="X" THEN CLS: CMD"S" ELSE 86
90 PRINT @322, "No file named '"F"' on any active disk !": RESUME 20

```

ASCFLPT4/BAS PROGRAM LISTING TWO by Henry H. Herrdegen

```

1  'ASCII File Print/Model4' prints ASCII file contents from disk, hardcopy at
   50 text lines/page plus Title, or shows 22 lines on screen.
2  'H.H.Herrdegen (87 03 22), for Mod 4: (90 01 17) 90 11 30.   on Disk:.
10 CLS: DEFINT L-P: DEFSTR E-K
12 H=CHR$(31): E=CHR$(13): G=CHR$(32): I=CHR$(14): J=CHR$(15): GOTO 18
14 K=INKEY$: IF K="" THEN 14 ELSE N=ASC(K): PRINT I;
16 IF N>96 AND N<123 THEN K=CHR$(N-32): RETURN ELSE RETURN
18 PRINT @270, "Print ASCII file.": PRINT @349, STRING$(19,"-"): PRINT
20 PRINT I: PRINT @497,;: LINE INPUT "Enter Filename to be called: "; F: PRINT
22 IF F="" THEN PRINT: PRINT TAB(10) "What do you want ?": PRINT: GOTO 82
24 PRINT @657, "Show on <S>creen only or print a <H>ardcopy ?"
26 PRINT TAB(18) "(NOTE: a 'down arrow' used for line spacing"
28 PRINT TAB(21) "will upset the line count on screen !)": PRINT @704,;
30 GOSUB 14: IF K<>"H" AND K<>"S" AND K<>"E" THEN 30
32 PRINT K: IF K="H" THEN P=1 ELSE IF K="S" THEN 52 ELSE 78
34 IF INP(248)=63 THEN 40 ELSE PRINT @720, H

```

con't on the next page.


```

36 PRINT @892, "Printer is not ready ! Fix it and press <H> again ! ";
38 GOSUB 14: IF K="H" THEN PRINT @812,;: GOTO 34 ELSE IF K=E THEN 78 ELSE 38
40 PRINT: PRINT TAB(20) "Do you want a Title on your printout pages ?"
42 PRINT TAB(17) "If so, enter one line (60 char's, to end of screen),"
44 PRINT TAB(17) "(the title will then be indented 5 spaces, and the"
46 PRINT TAB(17) "page number is printed in any case at column 70.)": PRINT
48 PRINT TAB(20) "For just the Filename as title enter `F'.": PRINT
50 PRINT TAB(21);: LINE INPUT FT: IF FT="F" THEN FT=F ELSE IF FT="" THEN 78
52 PRINT @400, H J: ON ERROR GOTO 94: OPEN"I",1,F: IF P THEN 72
54 IF EOF(1) THEN CLOSE: GOTO 74
56 LINE INPUT#1,FP: LFP=LEN(FP): L3=240: L2=160: L1=80
58 IF LFP>L3 THEN L=L+3 ELSE IF LFP>L2 THEN L=L+2 ELSE IF LFP>L1 THEN L=L+1
60 L=L+1: PRINT FP: IF P THEN LPRINT FP
62 FP="": IF P AND L=>50 THEN LPRINT STRING$(12-(L-50),10): GOTO 72
64 IF P THEN 54 ELSE IF L<22 THEN 54 ELSE PRINT I
66 PRINT @1845, "(file: "F")" TAB(45) "press <SPACEBAR> to continue. ";
68 GOSUB 14: IF K=G THEN CLS: PRINT J: L=0: GOTO 54
70 IF K=E THEN CLS: L=0: CLOSE: GOTO 78 ELSE 68
72 L=0: PG=PG+1: LPRINT TAB(5) FT TAB(70) "pg:" PG: LPRINT: LPRINT: GOTO 54
74 IF P THEN LPRINT: LPRINT TAB(5) "End of File."
76 PRINT: PRINT TAB(26) ">> End of File. <<": PRINT: PRINT I: GOTO 80
78 PRINT @480, H: PRINT @649, "What is it you want now ?": PRINT
80 PRINT TAB(10) "Do you want to <P>rint the File `F'",
82 PRINT TAB(25) "<C>all for another File,": PRINT: P=0: L=0: PG=0
84 PRINT TAB(25) "<E>nd the program and remain in BASIC,"
86 PRINT TAB(21) "or e<X>it to DOS ?": PRINT TAB(26);
88 GOSUB 14: IF K="P" OR K="C" OR K="E" OR K="X" THEN CLS ELSE 88
90 IF K="P" THEN PRINT @560,;: GOTO 24 ELSE IF K="C" THEN PRINT @480,;: GOTO 20
92 IF K="E" THEN END ELSE SYSTEM
94 PRINT @735, "No file named `F'" on any active disk !": RESUME 20

```

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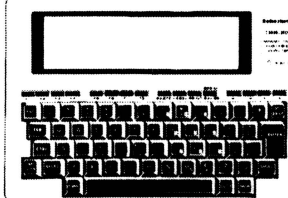
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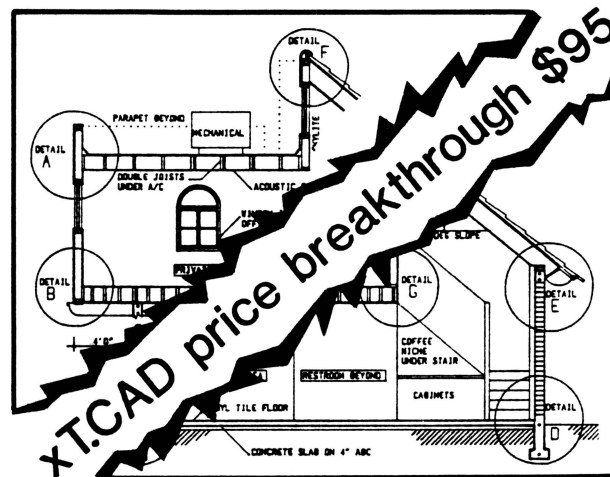
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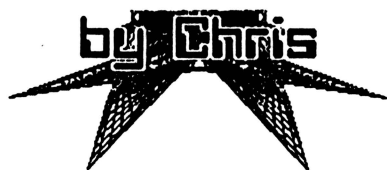
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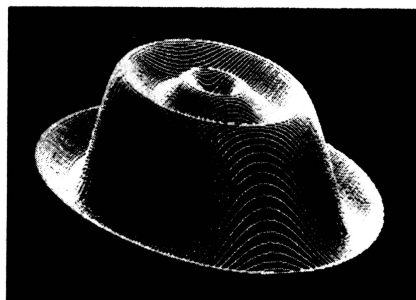
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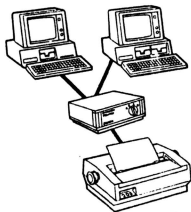
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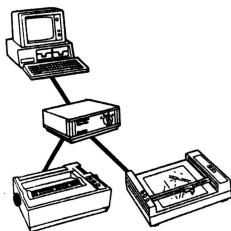
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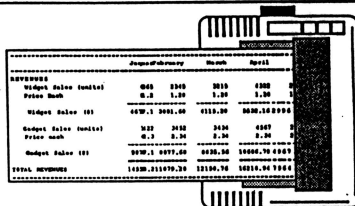
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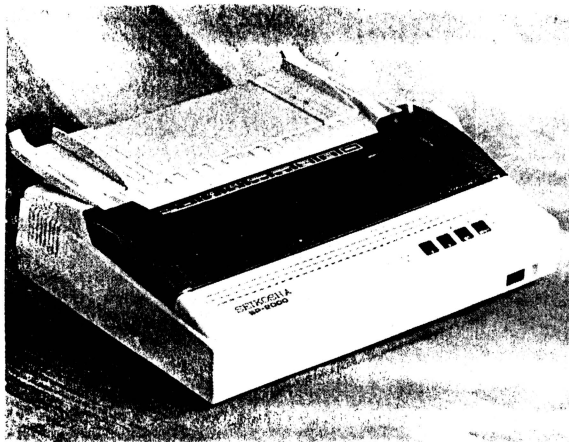
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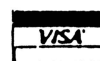
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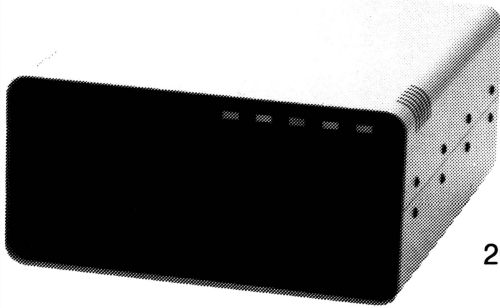
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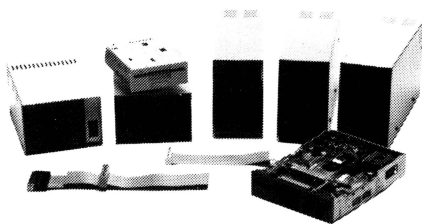
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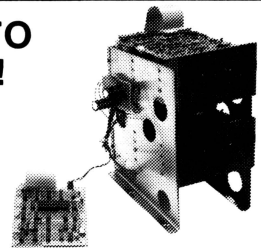
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